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FACILITATING JOINT OPERATIONS: THE EVOLVING BATTLEFIELD COORDINATION ELEMENT (BCE)
by MAJ Darryl A. Williams, USA, 48 pages

Military operations in the early 1980's envisioned multiple echelons of Soviet forces attacking forward deployed NATO units based in western Germany. Doctrinal thinking and publication focused on how best to stop this Army once it began its race across Germany. Airland battle doctrine offered time and distance as important elements for consideration towards any successful solution to the problem that planners faced. Attacking the enemy early, and in depth, before the clash of close combat operations would allow NATO forces to defeat the Soviets in smaller, sequenced pieces. This doctrine required that the land and air forces work together in order to best maximize their efforts. In turn, organizations were needed to help effect the coordination and synchronization needed to defeat the enemy.

This monograph discusses the evolving doctrine of FM100-13 which addresses one of these linking organizations, the Battlefield Coordination Detachment (BCD). The BCD serves a valuable function for the land component commander (LCC), because it links the ground scheme of maneuver with the air component commander's planned air operations. The organization has many functions and ultimately facilitates the synchronization of air support for Army operations in the areas of air interdiction, close support, theater airlift, army airspace command and control and air defense.

The paper traces the short history of the BCD from the early 1980's, to its first real use in Operation Just Cause, through Desert Storm, and ultimately to its evolving form as reflected in FM 100-13. The BCD will have more personnel, equipment, and enjoy a broader role than early doctrine envisioned. Because of its relatively meager resource requirements, the BCD will play a big part in the Army's future contingency operations. Moreover, the new doctrine prescribes how the BCD will interface with the other services as well as the Air Force, in order to receive air support. In an era of shrinking resources, the BCD is an organization that allows the commander to get "the most" out of assets supporting his ground campaign.

FACILITATING JOINT OPERATIONS:

The Evolving Battlefield Coordination Element

A Monograph
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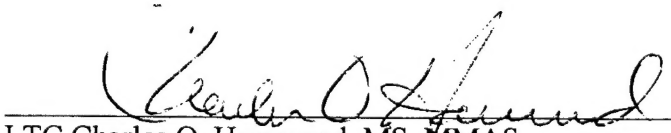

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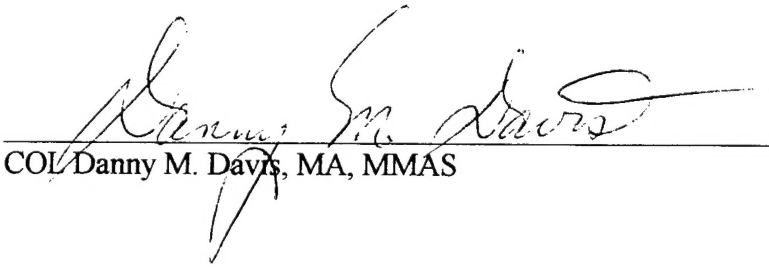

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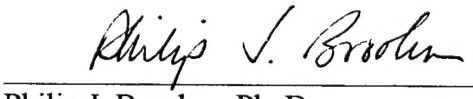

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I. Introduction

> Depth is the extension of operations in time, space, resources, and purpose. These factors vary by echelon and by constraints given to commanders. What is most important, however, is the fact that in any operation the Army must have the ability to gain information and influence operations throughout the depth of the battlefield.[1]

> . . . the concept of depth seeks to overwhelm the enemy throughout the battle area from multiple dimensions, contributing to its speedy defeat or capitulation. Interdiction, for example, is one manner in which Joint Force Commander (JFC's) add depth to operations.[2]

The above quotes address the necessity for joint commanders to expand their focus beyond the FLOT (Forward Line of Troops) in order to defeat the enemy in such a manner that dictates terms to the enemy. Modern technology allows the joint commander to reach out with longer shooting artillery, attack helicopters, and fixed wing aircraft so that the enemy has no time, or place, to hide. The commander's ability to skillfully combine these tools so that they impact at the right time, place, and with the desired effects is essential to the execution of operational art. However, the joint commander in his quest to put together a coherent operational plan needs assistance from subordinate commands. His ability to effectively achieve operational objectives, linked to the attainment of political objectives, will depend on the ability of his subordinate commanders to accomplish their missions.

The senior Army service component commander (ASCC) or commander ARFOR(Army Forces) in a Joint Task Force (JTF), is just such a subordinate commander responsible for conducting Army operations in support of the Commander-in-Chief

(CINC).[3] Moreover, with respect to attacking the enemy in depth, "the senior army commander ensures unity of effort and purpose by organizing fires in his operational battlespace." [4] Similarly, the senior Air Force component commander has many missions and tasks to support the Joint Force commander's campaign.[5] Air Force missions are "normally assigned through mission-type orders to accomplish objectives such as conduct operations to gain and maintain air supremacy or plan and conduct operations to disrupt."[6] Coordination and unity of effort between both the Army and Air Force components requires a cohesive liaison. The Battlefield Coordination Detachment (BCD), as the land component commander's (LCC) vital link between the ground scheme of maneuver and the air component commander's planned air operations provides such liaison. "The Battlefield Coordination Detachment facilitates the synchronization of air support for Army operations in the areas of: air interdiction, close support, theater airlift, army airspace command and control (A2C2) and air defense."[7] As will be discussed later, the BCD performs a variety of tasks in these areas to ensure that the LCC's ground intentions become known to the Joint Force Air Component Commander (JFACC), and, that the JFACC's concept for air operations adequately support Army operations. The focus of BCD operations requires that it be joint in nature. The forward-looking manual, TRADOC Pam 525-5, Force XXI Operations: A Concept for the Evolution of Full-Dimensional Operations for the Strategic Army of the Early Twenty First Century, addresses the joint connectivity that must exist between sister services. It says that "to fully execute full- dimensional operations throughout the depth, height, width, and time of the particular battlespace demands use of other service

assets."[8] The separate services can not afford to express parochial interests and operate in a vacuum. Elements which help facilitate and promote mutual understanding and coordination are important organizations in this era of shrinking resources. Thus, the continual evolution of the BCD, is a joint "growth industry" which will help promote service connectivity now, and in future combat operations. As this paper is being written, the BCD concept is going through transition in the form of emerging doctrine. The underlying question which this paper will attempt to answer is, how satisfactorily does the new doctrine address the required linkages between the army and the other service components. To accomplish this, the paper will first cover the history of the BCD along with the original doctrine which addresses the attack of second echelon forces. Next, using examples from various exercises, and operations such as Just Cause and Desert Storm, the paper will demonstrate how the initial doctrine was in need of some refinement. The paper will assess the emerging doctrine in order to more clearly understand its implications. Finally, the paper will ultimately show that elements such as the BCD, which are responsible for linking major components of joint forces are needed more than ever and emerging doctrine must properly resource them to successfully meet their challenges.

II. History

The concept of the Battlefield Coordination Element (BCE) was first born in the doctrinal thought of the 1970's. (The emerging doctrine refers to the BCE as the BCD). General William E. DePuy as TRADOC's (Training and Doctrine Command) first commander, was instrumental in establishing a dialogue between the Air Force's TAC (Tactical Air Command) and the Army's TRADOC.[9] The connection developed into a "relationship (that) gave currency to the term *Air-Land Battle*, first officially mentioned as the title of chapter 8 of FM 100-5."[10] AirLand doctrine would be the answer for the hordes of Soviet armor that planners envisioned penetrating Germany in successive echelons. "AirLand Battle was a realization that time and distance are central to success, and that only synchronized attacks on enemy forces as they entered the main battle area would disrupt and destroy follow-on formations."[11] The services realized that in order to defeat the Soviets they would have to rely on teamwork and put aside their respective service bias. Additionally, the services were to gain insights from a geographical region far from Germany. Drawing many lessons from the 1973 October War between the Arabs and Israelis, the two services worked out how best to compliment each others efforts in order to be effective. Thus, "driven by a recognition of the need for greater operational collaboration, a sense of urgency prompted by the October War. . . Tactical Air Command (TAC) and TRADOC began learning how to fight better, not each other."[12]

The Army and Air Force agreed that the nature of their joint cooperation required them to focus their efforts on tactics, techniques and procedures, rather than on more abstract doctrinal ideas.[13] Because of his tremendous personal experience, and the results of the October War, General DePuy knew that the Army would depend heavily on the Air Force in future conflicts. He recognized that the success of the ground forces often depend on close air support and air interdiction, which in turn require a joint effort by ground and air commanders.[14] Additionally, DePuy contended that "field commanders would have to know the enemy's situation beyond the front lines, to include his successive echelons, artillery, support troops, headquarters, and possible courses of action."[15] The services continued this logical approach to the battlefield, by identifying the scope of their respective responsibilities. More specifically, the Army would fight the close fight and thus, have primary responsibility from the FLOT (Forward Line of Troops) out to approximately five kilometers. The Air Force would have responsibility beyond fifty kilometers of the close battle. However, the area that would require alot of coordination and effort would be the area beyond five kilometers and short of fifty kilometers.[16] Thus, General DePuy's vision helped the Army and the Air Force to develop a better understanding of each other to include exactly where their responsibilities began and ended. However, this "middle ground area," that was further than five kilometers but short of fifty kilometers, would require much coordination, in order to effectively attack the enemy.

In the early 1980's, the relationship between the Air Force and Army services developed to the point where they were figuring out ways to successfully attack enemy

follow on forces.[17] Doctrinal guidance in conducting second echelon attacks appeared in the form of USREDCOM Pam 525-8/TRADOC Pam 525-45/TACP 50-29, *General Operating Procedures For Joint Attack of the Second Echelon (J-SAK).* In this manual one learns that the "objective of joint attack of second echelon targets is to divert, disrupt, delay and destroy the enemy's capability for continuous operations by altering the momentum of his effort."[18] By accomplishing this objective, commanders fighting the close fight will gain time and space with respect to the follow-on echelon of enemy forces. Procedurally oriented, the manual explained the specific functions of both the Air Force and the Army and how they must interrelate to successfully defeat second echelon forces.

NATO planners, with their European focus, thought that the defeat of second echelon forces was a key to their success. The J-SAK manual defined the second echelon "as enemy ground military formations not directly engaged in the battle at the FLOT and positioned behind the forces in contact as a reserve force, a Soviet-style second echelon, operational maneuver group, or follow-on force."[19] The purpose of these forces was to sustain the efforts of the forces engaged and to strengthen defensive belts. The forces that made up these echelons were a mixture of combat systems including combat support and combat service support.

To defeat these echelons, the Army and Air Force developed perspectives which they hoped would be mutually supporting. The Army's perspective was that "the three aspects of the AirLand Battle are the close-in fight at the FLOT to destroy enemy assault forces; the deep fight to divert, disrupt, delay, and destroy enemy second echelon forces;

and rear area protection for friendly forces."[20] The Air Force on the other hand, would provide forms of support to the Army. Close combat support consisted of CAS (Close Air Support) missions flown to attack targets in close proximity to friendly land forces. General support attempted to interdict the enemy's combat power before it could be brought to bear on friendly forces by dominating enemy air forces. General support attack missions included the missions of air interdiction and counter air and attacked enemy echelons at the limits of their employment capabilities.[21] Thus, determining what targets to attack and when to attack them would be a function of combining these two service perspectives. The joint force commander would determine the overall objective, which would drive the land commander's scheme of maneuver, and the air commander's air interdiction campaign guidance.[22]

To further delineate the responsibilities of the relative services, the Chiefs of Staff for both the Army and Air Force signed a Memorandum of Agreement (MOA) on 21 May 1984. The purpose of the initiatives outlined in the MOA was "to maximize joint combat capability to execute air/land combat operations."[23] Many of the initiatives instructed the Army and Air Force to conduct specific things in order to affect service interoperability. For example, initiative 21B tasked the Army and Air Force "to develop procedures that could be tailored to theater specific requirements to synchronize Air Interdiction with maneuver."[24] The result was joint exercises such as Blue Flag, Solid Shield, Bold Eagle, etc., which involved significant Army forces operating with a numbered Air Force such as the 9th, 12th, and the 21st.[25] During all of these exercises, the BCE was a major

organization responsible for the effective coordination among the several levels of command both within and across service lines.[26]

After the joint force commander issued guidance concerning the attack of second echelon forces, the subordinate commanders initiated the targeting process by issuing guidance in support of the operation.[27] To ensure proper use of limited resources, the services established effective means of coordination and communication. This was a dynamic process that evolved and changed over time, and required continuous dialogue. "To ensure the effective employment of limited surveillance, support, and attack resources, land and air force elements must continuously exchange and utilize intelligence information in order to identify targets which contribute most to the success of the enemy's battle plans."[28] The J-SAK publication contended that this is an iterative process consisting of the following basic elements: 1) establishing objectives and priorities, 2) collecting information, 3) detection of targets, 4) location of newly detected targets, 5) identification of potential targets, 6) decision on a particular course of action, 7) execution, 8) and assessment of the mission. This was the general targeting process as it existed in the early 1980's.

The purpose of the Battlefield Coordination Element was to ensure that all of these processes continued in a consistent and timely manner. It shared responsibility with other command and control mechanisms so that the services: 1) applied proper assets to key targets in a timely manner; 2) increased mutual support; 3) reduced overtargeting and duplication of effort; 4) precluded adverse effects on friendly forces; 5) and, ensured effective operations continued during degraded communications.[29] These

five characteristics described in the J-SAK manual are at the heart of what the BCD accomplished during the 1980's and early 1990's. It essentially performed a boundary spanning function which facilitated the smooth operation of the Joint Force Commander. Later the paper will indicate the differences between this doctrine, which had its genesis in the conceptual AirLand battle tenets of the late 1970s' and early 1980's, and the emerging doctrine which was influenced by Operations Just Cause and Desert Storm. Before addressing these comparisons and subsequent implications, the paper will present in closer detail the actual make-up of the Battlefield Coordination Element.

III. The Battlefield Coordination Element (BCE)

The 1980 doctrine for the BCE called for six different cells and some liaison officers to fill out its structural components. This doctrine is still valid until the new doctrine is put into effect. The BCE assigned to the LCC's headquarters is authorized one per TACC (Tactical Air Control Center). The BCE organized into six sections of plans, operations, intelligence, fusion, air defense artillery (ADA) and Army airspace management, and airlift, collocates with the Air Force's TACC. The Air Force has operational sections that the separate BCE elements link up with during an operation. The BCE Plans Section collocated with the TACC's combat plans division, and consults routinely with this division on the anticipated Battlefield Air Interdiction (BAI), and forwards an appraisal of the forecast BAI to the LCC. The BCE Operations Section

collocated with the TACC combat operations division, and monitors execution of the current ATO as it pertains to sorties planned against land force nominated targets. The BCE Fusion Section collocates with the TACC's ENSCE (Enemy Situation Correlation Element), and analyzes the most current information on Army intelligence and friendly situation. The BCE Air Defense Artillery and Army Airspace Management Section coordinates Army air defense and airspace matters with the TACC. The BCE Airlift Section collocates with the ALCC (Airlift Control Center) and advises the TACC on land airlift requirements. The GLOs (Ground Liaison Officers) and the ARLOs (Army Reconnaissance Liaison Officers) locate with the various wings, and monitor debriefings and pass information of land force interest to the BCE. Finally, each subordinate corps will send liaison officers to the BCE to facilitate information exchange.[30]

Subordinate units contribute to the exchange of information in a variety of ways, which help facilitate the Joint Force Commander's mission. The TACC and LCC exchange such information as 1) components' concepts of operation; 2)recommendations to the JFC on air apportionment and assignment of land resources; 3) intelligence; 4) planned and current operations; 5) placement and location of the fire support coordination line (FSCL) and forward line of own troops (FLOT); 6) nuclear operations; 7) chemical operations; 8) mining operations; 9) joint suppression of enemy air defenses (J-SEAD); 10) Area air defense operations; 11) Airspace management; 12) Special operations; 13) command, control, and communication countermeasures.[31]

Beyond the BCE's basic structure, it is important to discuss how the TACC and the BCE interact during planning for the attack of second echelon forces. As mentioned

earlier, AirLand doctrine requires that land commanders fight the enemy throughout the depth of the battlefield and thus, enemy land forces that will affect their forces' scheme of maneuver.[32] Conversely, USAF tactical doctrine requires that air operations are planned against enemy forces throughout the entire theater of operations.[33] Because of the enormous complexity of servicing targets throughout the depth of the battlefield, land component forces do not always receive the degree of responsiveness that they would like in servicing their targets. Desert Storm is full of examples of targets that were not attacked because of the enormous breadth of the operation. This battlefield offered a target rich environment; the problem was figuring out how to service them all, and in what order. Besides the large number of targets, there was another more subtle problem associated with targeting.

Historically, the Air Force makes a distinction when they are attempting to delay, disrupt, and destroy the follow-on forces of the enemy. "Air interdiction (AI) attacks against land force targets which have a near term effect on the operations or scheme of maneuver of friendly forces, but are not in close proximity to friendly forces, are referred to as battlefield air interdiction (BAI)."[34] BAI targets, according to AirLand doctrine, must be synchronized with ground maneuver. The LCC conducts the prioritization of target nominations and routes them through the BCE to the TACC. Thus, the BCE ensures that targets are both synchronized and prioritized within the Land Commander's scheme of maneuver.

The BCE performs another vital function for the LCC, when it performs an appraisal of the BAI that is forthcoming. The accuracy and precision of such an appraisal

varies with respect to time.[35] Obviously, the closer it is to mission time, the more accurate the appraisal. The opposite is true in that the further away from mission time, the more ambiguous will be the assessment by the BCE personnel. Additionally, the BCE's ability to accurately track the BAI attack package will require continuous refinement and monitoring by qualified personnel. Target intelligence refinement gives commanders maximum flexibility. It helps them because "it allows forces to be structured and positioned, permits systems to be used and then shifted to meet the changing tactical situation."[36]

Because the BCE is an organization that can express the maneuver commander's interest at the TACC, it does possess some authority, which is absolutely critical in the dynamic nature of combat. There are instances on the battlefield where the predicted targets do not materialize. The BCE is intimately involved in the evaluation of the target given the situational changes. "When these situations occur planned tactical air sorties may be retargeted by a request through the BCE to the TACC."[37] Although the BCE is not the ultimate decisionmaker, it can generate considerable clout by influencing the reception of LCC's targets at the TACC, and helping to deconflict target problems.

The conceptual origin of the BCE was born in a time period when policy makers, military leaders, and most germane to this discussion, doctrine writers believed that the Soviet Union would attack Germany with its endless waves. The J-SAK doctrine written in 1984 captures the initial thoughts concerning the employment of the BCE in this environment. It was a good start, but as the paper will illustrate the doctrine had to broaden in its scope and application. From this older doctrine, one learns that the BCE

plays a very important role in the continuous exchange of information between the TACC and the LCC. Organizations that can effectively represent the interests of the parent unit at another element's headquarters, without a major investment in personnel and equipment are extremely valuable. With the proliferation of joint task force missions conducting contingency operations, the BCE is just such an organization. Given this historical review concerning the BCE, it is now time to take a look at the BCE in action.

IV. The BCE in Operation

Operations Just Cause and Desert Storm marked the first deployment of the BCE to actual combat situations. As mentioned earlier, the BCE participated in many joint exercises in the early 1980's with numbered Air Forces. However, this time period was one of growing pains. The organization was not adequately resourced in terms of personnel, training, or equipment. An observation report from Gallant Knight 83-7, addressed some of the communications problems. The report said that the "the BCE is a relatively new concept and the communications requirements are still being defined."[38] As an organization that must rely on a sound communication apparatus to relay information between the LCC and the TACC, the initial fielding was inadequate. The early architects of the BCE did not realize that each separate division within the BCE, such as the Plans and Operations would need multiple lines of communications

connectivity. For example, the BCE (Combat Operations) would need to talk to the ARFOR (Forward) FSE, to ground liaison officers with each deployed USAF airlift/fighter/reconnaissance wing, and the ARFOR (Main) All-Source Intelligence Center (ASIC).[39]

By the time of Operation Just Cause in 1989, the BCE had worked some of the bugs out of the organization. Validation of the BCE's role in contingency operations occurred during this US conflict in Panama. One of the areas that planners struggled with was the appropriate size packages to deploy the BCE in support of contingency operations. It essentially boiled down to a balancing act between two extremes. The first extreme was that planners meet the often conservative manifest requirements, but run the risk of not having qualified personnel on hand to do the operation. The other extreme is that planners attempt to take a more robust number of personnel, but because of insufficient transportation assets are often unable to deploy these personnel.

The solution that XVIII Airborne Corps planners came up with involved deploying the BCE in increments. "Initial planning for the operation called for a 12 man BCD to be deployed in three increments, with a two man BCD team deployed as a part of the XVIII Airborne Corps Advon."[40] The second increment of soldiers consisted of an operation/airspace management officer, a plans NCO, an operations NCO, and an airlift officer. However, as mentioned above, deployment in contingency operations often does not allow for deploying a full complement of soldiers, and thus, the airlift officer was bumped for someone else.[41] The last increment of soldiers did not deploy to the theater

of operations, because combat operations had stabilized enough so that the soldiers already deployed could handle the situation.

On the heels of Operation Just Cause, Operation Desert Shield/Storm represented the true test of BCE effectiveness. However, before the actual deployment to Saudi Arabia, planners got an opportunity to evaluate the organization during CENTCOM's Internal Look. Internal Look was an opportunity to observe how the US contested an Iraqi invasion of Kuwait and Saudi Arabia. "To test how the command might deploy to blunt such an Iraqi invasion, the CENTCOM staff put together in record time a remarkably fortuitous and prophetic exercise, Internal Look 90, which ran from July 23 through 28 concurrently at Fort Bragg, North Carolina, and Hurlburt Field, Florida."[42] For the BCE this was an ideal opportunity to exercise their ability to test their boundary spanning abilities. The exercise was a joint exercise that incorporated and integrated all services and component commands. For example, "the battlefield coordination element (BCE) deployed to the Ninth Air Force Tactical Air Control Center at Eglin Air Force Base, Florida, and coordinated air and ground operations just as it would later in Desert Storm."[43]

Operation Cobra Gold 1990 also provided an opportunity to assess the functioning of the BCE. An after-action report discussing the collection plan for the exercise, illustrates the planners attempt to take a good hard look at themselves. Specifically, with respect to assessing Army A2C2 (Army Airspace Command and Control) the planners asked the following questions: Can the BCE A2C2 section adequately advise the TACC combat plan/ops, other BCE section, G3 Air, A2C2

elements and ATS elements of significant activities which effect the joint use of the airspace under current doctrine? Can the BCE A2C2 section adequately represent Army interests in the development and approval of airspace control measures and restrictions under current doctrine?[44] The answer to these questions at this stage of the BCE's development were only partially in the affirmative. While the BCE seemed to have been on a steady pattern of improvement from participation in many exercises, and its deployment in support of Operation Just Cause, the BCE would unfortunately experience still more growing pains in Operation Desert Storm and Desert Shield. The initial deployment of the BCE to the theater of operations was early in the overall deployment cycle and went relatively smooth. The 1st Battlefield Coordination Element, arrived in Riyadh with a full complement of 30 personnel on 17 August 1990 (C+10).[45]

During the long months before actual combat operations, the BCE under the guidance of the BCE Chief, COL David Schulte, continued to assess its effectiveness beyond mere deployability. The planners developed mechanisms to test the BCE's ability to function at the JTF level. An example of the kind of questions the planners asked are as follows: Does current doctrine and force structure support the effective integration and coordination of ARFOR air support requirements? Does the current force structure provide the automation/communications necessary to perform the doctrinal BCE functions? Can the BCE adequately advise the JFACC of the ground situation/activities/ scheme of maneuver under current doctrine? Can the BCE adequately receive, staff, coordinate TACAIR, airlift, Recee, and other air requests with the appropriate joint agency under current doctrine?[46] As in Cobra Gold 1990, the BCE

planners could not satisfactorily answer these questions with any real sense of assurance. However, these questions posed before the actual initiation of hostilities were crucial to the growth of the BCE doctrine after the conclusion of Operation Desert Storm. The exercises leading up to Desert Storm to include the noncombat phase of Desert Shield were invaluable in exercising the linkages that would be necessary to bring victory to the JFC's successful campaign plan. As one will see in the next section, the growing pains concerning the operation of the BCE in Operation Desert Storm were extensive.

One source of pain surrounding the execution of Operation Desert Storm, was the ARCENT's perception that their target nominations were not adequately addressed. As mentioned earlier, the sheer immensity of targeting 26 Iraqi divisions spread over the majority of the Kuwaiti Theater of Operations (KTO) was part of the problem. Targeting doctrine, was essentially being made up as the operation was unfolding.[47] For other than preplanned targets, the ARCENT "targeting team provided CENTAF with 'kill box' targets for certain units such as the Republican Guard."[48] On the surface this sounded like a good idea. Targets were nominated during the normal ATO (Air Tasking Order) cycle and those targets that appear in a geographical area, are serviced by aircraft who are essentially on-call. However, these kill box lists were not included on ATO nomination lists, but instead were given directly to the Air Force targeteers or the fighter/bomber wings.[49] Any targets emerging over and above these procedures, "were passed to the Air Force via the BCE from the target team and the dynamic targeting cell located at CENTAF."[50] The bottom line to all of this complexity was that during the

entire war "a total of 1,582 'non ATO cycle' targets were passed to the Air Force and flown."[51]

This chaotic and inefficient approach to targeting was apparently effective, but resulted in friction between the Air Force and the Army. An example of such friction can be seen in the Army's frustration with the Air Force system. One after-action report reads that "the Air Force evaluates requests for airspace based on its needs first and other services requirements second."[52] The report continues by saying that:

> For example, if the Air Force received an Army request for airspace which conflicted with an Air Force track, the Air Force disapproved the request. If the Air Force submitted an airspace request that conflicted with an Army track, the Air Force moved the Army track (usually to less desirable space for mission accomplishment) or canceled it. This airspace system also cannot react to the dynamic, changing environment endemic to the Army's ground battle.[53]

Beyond cultural differences in the respective services, there were some more tangible reasons for the targeting inefficiencies. As mentioned earlier, the BCE is by doctrine the LCC's representative, however, "the BCE served as the ARCENT's interface with Horner's staff, making it one of several competing voices in the daily targeting meetings."[54] Moreover, COL Schulte, as the chief of the BCE "did not have daily access to the CINC's briefings where Schwarzkopf would often issue guidance directly to Horner."[55] The bottom line is that the CINC, knowingly or unknowingly, cut the BCE out of doing what it had been preparing to do since its inception in 1984. COL. Schulte, who was a personal friend of General Waller, went to him and explained the situation. The process was slightly amended when Schwarzkopf appointed General Waller as the head of the Joint Targeting Board.

While the lack of a JFLCC caused some problems for the BCE, there is evidence that suggests that the BCE did not operate as efficiently as it could have. After Desert Storm, General Waller spoke of the effectiveness of the BCE and whether there was a need for structural changes. His comments are as follows:

> The BCE worked for everybody from the CINC/DCINC to the JFACC and the corps commanders. The problems we face are it is not structured to do its job nor are some of the people trained to do what needs to be done. The BCE staff were good people but they weren't trained to do what we had to do. . . .we need (ed) a minimum of one BCE in place in each warfighting CINCs theater . . .some theaters would require more than two. You also have to tie down the BCE doctrine and ensure we assign the right people to the BCEs. This is a critical organization.[56]

These are insightful comments reference the BCE's performance in Operation Desert Storm from General Waller, who was intimately involved with the daily task of tracking the distribution of targets throughout the theater of operations. In this short narrative, General Waller accurately summed up some of the major points of contention that after-action reports and comments had been suggesting for years. Namely, that the BCE lacked the appropriate amount of trained personnel and that it was lacking in sufficient doctrine. However, he also indicated the importance of the organization. Unfortunately, it does not appear as if the CINC allowed the BCE to do its job.

In the final analysis, the ingenuity of US fighting soldiers and their combined total strength in numbers, were the ultimate factors which overcame the training deficits of the BCE, and interoperability problems between the Air Force and the Army. With respect to innovative "workarounds," staffs sought solutions in no single source, but looked to a variety of organizations. For example, XVIII Airborne Corps was "very

successful in obtaining what they called opportunity CAS or mission diversions by using various air-ground liaison officers with Army units, ground liaison officers with Air Force units, and the BCE, an organization designed to provide for real-time Army-Air Force coordination."[57] Thus, by actively tracking requests through various coordination elements, the XVIII Airborne Corps was able to increase missions flown to help shape the eventual ground attack. There was enough air power for everybody despite the interservice bickering. because the USAF enjoyed overwhelming air superiority .[58]

Despite the success of Operation Desert Shield/ Storm, lessons learned from the Gulf War, indicated that the BCE needed work. In all fairness to the soldiers serving in this organization, they were doing the best they could. However, with a dated doctrine, a lack of proper manning, and proper equipment, a tough mission was made even tougher. One after-action report read reinforced the need for changes in staffing of the Battlefield Coordination Element."[59] The report continued by saying that personnel working in the BCE must have the operational experience to understand how Army fire support and airspace control issues work, and most importantly, explain them to Air Force Planners.[60] The issue ultimately called for an increase in the table of organization and equipment (TOE) for the BCE to include personnel with the requisite fire support expertise. As the paper will later explain, this issue echoed again and again by many soldiers would surface in the new doctrine.

Another important issue was the lack of effective communications between the BCE and the ARCENT Deep Operations Mission Manager.[61] As explained earlier, because of the dynamic nature of combat, it is important to have mechanisms that allow

for timely exchange of information. When conducting Deep Operations during the war, there were times that the Deep Mission Manager was "unable to respond effectively to the corps or the ARCENT commander when there was a requirement to divert aircraft from one target to another, or to change the FSCL or the RIPL."[62] Besides the obvious danger to ground troops, many opportunities were lost to kill the enemy.

Operations Desert Shield and Desert Storm were watershed events for the BCE. As noted, the underlying lesson learned concerning the BCE was that it needed more augmentation in terms of people, training, and resources. In addition to these observations, exercises conducted after the conclusion of the Gulf War would stress an increased importance on joint operations. An example of these joint flavored exercises is seen in Joint Readiness Exercise Tandem Thrust 1992. In this exercise, the JFACC combined the Army's BCE and COMMARFOR's (Commander Marine Forces) liaison element into a Ground Force Coordination Element (GFCE). Army Airspace Command and Control doctrine calls for a BCE augmented by a Marine Liaison Element (MLE) to help the Land Component Commander integrate air ground operations. However, the COMMARFOR, as the ground commander, decided to combine the two elements in order to ensure unity of effort in representing ground operations and requirements.[63]

While the COMMARFOR was successful in employing the GFCE for mission accomplishment, this use of the two liaison elements was not in accordance with doctrine. The BCE function "is to support the LCC regardless of service affiliation of the LCC."[64] However, because the MLE that the Marines sent to the BCE was organized similarly there was some duplication of efforts. Therefore, the important issue here was

efficiency. The BCE took advantage of the marines expertise in employing marine air-ground operations, but could have operated just as efficiently with a liaison element acting as a conduit between the BCE and the MARFOR. As result of this exercise, planners called for a harder look at BCE joint interrelationships and functions in the emerging doctrine for Command and Control of Joint Air Operations.[65] As will be seen later in the paper, the new doctrine covers in great detail the appropriate relationships of the BCE with other services.

Blue Flag 94-2 was an exercise conducted after Desert Storm which demonstrated the great strides of the BCE and identified some areas in which the organization must continue to improve. The BCE had the opportunity to perform all of its doctrinal, liaison functions. "The Third U.S. Army (ARCENT) was the Army Forces (ARFOR) headquarters, and the BCE served as the ARFOR liaison to the 9th Air Force Commander in his role as the JFACC."[66] Moreover, this exercise marked some firsts for the BCE. Because of feedback from past exercises and Desert Storm, the BCE deployed with and operated its own Standard Theater Army Command and Control System (STACCS)/Target Management and Development Application (TMDA) terminals. This equipment gives the Army the ability to develop, nominate, and manage targets to be struck by other than Army assets. Moreover, this equipment allowed the Army to interface with a numbered Air Force's command and control and Air Tasking Order (ATO) development system-Contingency TACS Automated Planning System (CTAPS). With this equipment, the BCE planners were able to track the target nomination process and distribution of battle damage assessments.[67]

In theory, with this equipment the BCE should have been able to provide the land component commander with timely information concerning target status and more aptly interface with the Air Force. However, with respect to mobile targets, the Air Force applied some oversimplifications that shortcircuited the effective employment of the BCE. During the Joint Guidance, Apportionment, and Targeting (J-GAT) Board meetings only fixed targets had visibility.[68] More simply, the Air Force planners considered only fixed targets such as bridges and installations for interdiction, and allowed CAS planners to handle the army mobile targets. Additionally, not unlike Desert Storm, the Air Force attempted to simplify its mission planning by assigning "kill boxes." These were grids laid over the battlefield to ease control of attack aircraft and were identified by a two-character alphanumeric designator.[69] This process would seem to simplify air-ground attack operations, however, it caused three distinct problems. The first problem dealt with the lack of a real assessment conducted by the targeting board. Because all but a few of the targets were mobile, the board did not have to worry about seriously considering the Commander Army Forces' (COMARFOR) concept about shaping the battlefield using deep operations. Secondly, because missions were flown against kill boxes, and not distinct targets with specific desired effects, the BCE could not effectively monitor execution of the ATO with the multitude of missions in one kill box. Finally, the open and free manner in which targets were attacked prevented the BCE from tracking the BDA (Battle Damage Assessment) reports on Army nominated targets.[70]

Despite the oversights on the part of the planners, the BCE performed well with the equipment additions in the exercise. The after-action summary commented on the importance of the Blue Flag exercises for continued improvement. "Blue Flag is the 'bread and butter' of BCE collective training. No other exercise replicates all of the BCE functions at the level of intensity of Blue Flag."[71] The exercises allow the organization to get the full breadth of the complexity that exists on the modern day battlefield. Most of the complexity is not necessarily caused by battlefield events, but is due to the many levels of organizational hierarchy and cultural biases that the BCE must work around. As in the examples described above, just because the BCE had the tools to interface with the Air Force, there was no guarantee that the Air Force planners would make a real effort to recognize their contributions.

Thus, the BCE had in a little over ten years developed to the point where it was a valuable contributor to the attack of deep targets in support of the land component commander's campaign. It had developed some doctrine, received some resourcing in the sense of additional personnel and equipment and most importantly, fellow organizations clearly saw the need for such an organization. However, the original doctrine concerning attack of second echelon forces had in these ten years become archaic. The Berlin Wall was down and US soldiers, many of whom had spent their whole careers preparing for the Soviet waves, were suddenly faced with preparing for different types of conflicts. Our current doctrine says that the US Army must be prepared to conduct contingency operations and be a force projection Army. This fresh

perspective required that the services examine how they conduct warfare and make changes where appropriate.

V. The Way Things Will Be

FM100-13 (Coordinating Draft) represents such change and is an attempt by Army planners to best articulate how the BCD can interact with the JFACC, and best facilitate the synchronization of the air attack plan with the Army ground operations through the coordination of air support and the exchange of operation and intelligence data.[72] The new doctrinal manual is very prescriptive and explains exactly what the BCD will do to support the Land Component Commander. To support the commander the BCD performs a variety of functions. The most critical of functions that the BCD performs is Battle Command. According to FM 100-5, Battle Command has two main components- decisionmaking and leadership. The BCD helps the commander most with the decisionmaking component. As FM100-5 posits, decisionmaking is deciding if to decide, then when and what to decide.[73] The BCD best helps the JFACC with this function by ensuring that the JFACC has a good understanding of the ARFOR battle

command structure. The JFACC depends heavily on the BCD to explain both the structure and capabilities of the Army forces that are interacting with the Air Force.

The second most important function that the BCD provides for the JFACC, is the exchange of intelligence. In order to ensure that the Air Force has the most recent information concerning the enemy, the BCD must keep the Air Force informed reference Army collection requirements and intelligence reports. Likewise, the BCD will provide the Army with combat assessment and associated battle damage assessment (BDA). Ultimately, the purpose of this exchange of intelligence is to assess the effectiveness of current operations, change current plans and plan for future operations.[74]

With respect to firepower, the BCD coordinates the Army's needs for close air support and air interdiction and conversely, coordinates for the Air Force the use of preplanned or immediate Army Tactical Missile Systems (ATACMS).[75] Additionally, the BCD ensures that the JFACC understands the plans for the employment of ground forces. This understanding of the Army plan ensures that AI missions best support the maneuver plan. The BCD also ensures that nonlethal fires are included in their planning efforts. Nonlethal fires, PSYOP, and EW, are important combat multipliers for the ARFOR Commander.[76]

With respect to airspace management, air defense, theater missile defense, and airlift, the BCD serves an invaluable role in passing information to the ARFOR and the JFACC. The land component is a frequent user of the airspace on the modern battlefield. The commander's needs include the use of airspace by ARFOR fixed and rotary wing aircraft, reconnaissance and surveillance platforms such as unmanned aerial vehicles

(UAV), and indirect fire trajectories.[77] Moreover, the BCD will keep the land component commander informed concerning the air operations in the ARFOR Area of Operations (AO), so that elements such as special forces operating beyond the fire support coordination line (FSCL) are protected with fire support coordinating measures. The JFACC is usually designated as the joint force area air defense commander (AADC), and the BCD will help the JFACC integrate the defensive counterair operations with ground air defense systems.[78] With respect to theater missile defense, the BCD expedites target confirmation, deconflicts airspace, provides early warning to friendly air defense artillery (ADA) headquarters, and when authorized, directs ATACMS/MLRS missions against TMD targets.[79] The bottom line is that the BCD is totally involved in every aspect of airspace management within the theater.

Finally, the BCD assists in command and control warfare by ensuring that the land component commander's plan is well integrated with the air plan. It assists in OPSEC, military deception, and physical destruction. BCD liaison functions assist ARFOR intelligence assets by supporting operations to deny the enemy information about friendly intentions.[80]

Identifying the functions, (battle command, intelligence, firepower means, airspace management, air defense, airlift, theater missile defense, and command and control warfare) that the BCD must perform in order to affect a successful liaison with a JFACC is of value. It is helpful because it focuses the BCD in the exact areas that they will interface with the other headquarters. Moreover, it lets other agencies gain an appreciation for the scope of BCD operations so that they know how best to interface

with the organization. Clearly, the functions of battle command and command and control warfare reflect current doctrinal concepts, and J-SAK doctrine did not address these specific functions. The doctrinal writers recognition in the emerging importance of battle command functions indicates their desire to empower the BCD with a much broader supporting role than previously existed.

The next broad shifts in the BCD occur in actual organizational and manning changes. The new BCD will have an operations section, plans section, an ADA section, airspace management section and an airlift section. This differs from the old organization which had an operations section, a fusion section, an air defense artillery/army airspace management section, a plans section, an intelligence section and an airlift section. However, despite these changes, the sections perform many of the same functions that they did in the early 1980's. For example, the operations section is responsible for monitoring and fighting the current fight, while the plans section prepares for the fight 48-72 hours out. Also, the new organization combines and encompasses much of the original BCE sections. For instance, there are still intelligence elements in the new TOE, but they are in the plans and operations section. The biggest difference in the new TOE is the number of people who will serve in the BCD. Old doctrine only allotted twenty-nine personnel for the BCE, while new doctrine will authorize thirty-nine personnel for the BCD. This will allow for more continuous operations and greater representation in various functional areas. For example, the new TOE authorizes a targeting officer (warrant officer) in the operations section and a targeting noncommissioned officer in the plans section.[81] There are also senior fire support

noncommissioned officers in both sections. Because the BCD often finds itself acting as a fire support element at the echelon-above-corps level (EAC), these personnel will be helpful to both the ARFOR and the JFACC. The effect of the changes made in the new doctrine are that the BCD is much more robust in manning and representation of specialties.

The main focus of what the BCD does for the ARFOR, is to provide influence into the ATO cycle. Although there may be variances depending on the theater, Joint Pub 3-56.*1 Command and Control for Joint Air Operations* lays out the phases for the ATO cycle which are: JFC/Component Coordination, Target Development, Weaponeering/Allocation, Joint ATO Development, Force Execution, and Combat Assessment.[82] The BCD has a role in each one of these phases. It begins with the plans section processing the ARFOR target nominations through the Joint Area Operations Center (JAOC) combat plans division during phase one, and ends with monitoring the aircrew mission reports (MISREPS) received from the Ground Liaison Officers (GLOs) stationed at the various wings in phase six[83] Through all six phases the BCD is constantly monitoring the status of the mission and keeping the JFACC and the ARFOR informed. The primary interface for the BCD in relation to ARFOR deep operations is the DOCC (deep operations coordination cell). Moreover, the primary means of communicating is with the ADOCS (automated deep operation coordination system) which connects with the fire direction system (FDS), the maneuver control system (MCS) and the all source analysis system (ASAS)[84] Because of the conscious attempt to ensure appropriate linkages, doctrinal planners have a good grasp on conducting deep operations

as reflected in FM 100-13. Attacking deep targets with fixed and rotary wing air power, rocket and missile artillery requires coordination that the commander could not always rely on in the past. While conducting deep operations is by no means a simple procedure, a firmer blueprint now exists to ensure that synchronization occurs on the battlefield.

Communications represents the next big area that new doctrine will attempt to fix with its guidance. The basic requirement has not changed since the early 1980's. The BCD must interoperate and communicate with Army, joint and other service organizations as an echelon above corps units located at the JAOC.[85] However, with the new organization, each section has individual communication needs which must be addressed for the BCD to perform its job in a satisfactory manner. As mentioned earlier, the CTAPS is how the Air Force will disseminate the ATO, and the BCD must have a way of obtaining information. The requirement is that the BCD have five CTAPS work stations for synchronization and coordination with the Air Force.[86] The Air Force or whatever service is acting as the JFACC, must provided the CTAPS. The need for all of this updated communication equipment will allow the BCD to leverage other systems.

The ability to access the Army Global Command and Control System (AGCCS) is a good example of what the BCD can use to enhance its ability. The AGCCS will replace the Standard Theater Army Command and Control System (STACCS) which is the primary automated command and control system at echelons above corps.[87] The AGCCS will in turn interface with the Army's tactical command and control system (ATCCS). Ultimately, this will allow the BCD access to two all-source analysis system (ASAS) work stations in order to receive updated information and intelligence

summaries; three advanced field artillery tactical data systems (AFATDS), in order to receive and disseminate targeting information and fire support; and one Forward Area Air Defense Command, Control, Communications, and Intelligence (FAADC3I), in order to access air defense systems and sensors; and finally, one Tactical Airspace Integration System (TAIS) to coordinate Army aviation deep operations with Air Force missions.[88] All of these systems represent a tremendous improvement in the BCD's capability from the early 1980's. These hardware and software additions allow the BCD to tap into all facets of the targeting process, and in turn communicate their information to subordinate headquarters elements with minimal delay.

In addition to the quantitative increases in equipment that the BCD must possess to perform its mission, thought must be given to how the BCD will support the contingency mission. Given our current doctrine, the US Army will continue to conduct missions as a force projection entity. Although the BCD is designed to operate in a mature theater with a fully deployed AOC, the BCD can operate under a variety of other circumstances. For instance, the BCD can deploy in tailored cells when a Navy or Marine Force commander is designated as the JFACC or when the ARFOR commander is a division or brigade commander.[89] Operations such as these, require a flexibility that American soldiers have always been able to bring to situations that are atypical and require them to operate in different roles. FM 100-13 states that "contingency operations are often highly visible and politically sensitive affairs, that are characterized by the "surgical" use of air assets and a high level concern about the collateral damage effects of friendly air attacks.[90] Thus, in this extremely fast-moving and uncertain environment

it is imperative that the BCD provide precise and timely information concerning Army operations to the JAOC.[91]

The BCD must plan to perform a variety of functions for the JAOC regardless of the size of its augmentation or the nature of the mission. At the very minimum, the BCD must be prepared to perform all BCD functions regardless of the size of the deployed cell; deploy an initial BCD cell with the most experienced soldiers; stay involved with the ARFOR plans staff to ensure OPLAN development includes the BCD deployment and support; clearly identify communications and automation requirements; and finally establish airlift priorities.[92] Besides these baseline functions, the BCD must perform a myriad of other functions to properly plan for a deployment. A few examples of the kinds of things that the BCD must do, include ensuring all components agree to use the Army Request Numbering System for commonality across all air component services; brief key personnel and agencies such as the ARFOR, CLF (Commander Landing Force), CATF (Commander Amphibious Task Force) etc., of the role, mission, and function of the BCD, and finally, establish a plain address (PLAD) or route indicator (RI) for all hard copy message traffic routing. All of these things mentioned require that the BCD spend some time basically "selling themselves" to the organizations they ultimately must support or conduct operations. Thus, although the BCD has been in existence for some time, many still do not realize all the functions of the organization. A part of the organization's time will be spent convincing other organizations of its utility in a joint operation.

As an attempt to further general knowledge of the BCD, emerging doctrine is explicit in defining its relationship with the other services. First, with respect to the service that the BCD will serve most often with, the Air Force performs essentially three basic management functions- flight management, battle management, and systems management. The flight management function consists of air operations planning culminating in the production of an ATO and then monitoring and tracking the progress missions; while battle management focuses on the actions and activities taken in direct response to the presence of the enemy; and finally, system management focuses on communications building and maintaining efficient interface with all elements of the theater air control system (TACS).[93] For the Air Force, the most important function concerns itself with battle management because its success or failure in this area can determine whether the theater forces accomplish their objectives.[94]

While these three management systems describe what the JAOC must do, there are more specific elements that the BCD will interface with on an operation. The typical JAOC consists of a director and six functional elements based on the following USAF AOC structural elements: Combat Plans Division (CPD), Combat Operations Division (COD), Combat Intelligence Division (CID), Systems Control Center (SYSCON), Logistics Readiness Center (LRC), and Combat Service Support Center (CSSC). Additionally, a Directory of Mobility Forces (DIRMOBFOR) will probably be assigned as the JFACC staff as a liaison from Air Mobility Command (AMC).[95] The divisions have responsibilities that are in keeping with their titles. The Plans Division is responsible for the air campaign planning function for the JAOC and also produces the

ATO. The Operations Division is responsible for execution of the current ATO. The only division which requires some explaining is the SYSCON which is responsible for the employment and connectivity of Air Force Communications-Computer Systems elements within the theater of operations.[96] It is also responsible for the theater's joint communications network. Given its current allocations, the BCD, will have no trouble covering down on a numbered Air Force's ASOC.

The Navy's senior agency of the Navy Tactical Air Control System (NTACS) is the Tactical Air Control Center (TACC).[97] The Navy TACC is the equivalent of the Air Force's ASOC, and is responsible for air support and air warfare forces in the Amphibious Objective Area (AOA), until control of these operations is passed to the commander, landing force (CLF). The Navy TACC is divided into five sections: air traffic control, air support control, helicopter coordination, air warfare, and plans and support.[98] The ATCS is responsible for the safe handling of all aircraft operating within the AOA; the ASCS (Air Support Control Section) exercises operational control and coordination of all aircraft assigned to strike warfare or troop missions; all transport helicopter operations are controlled by the helicopter direction centers located aboard aviation-capable amphibious ships; the AWS is responsible for the evaluation of all air warning reports and the operational control of all warfare assets; and finally, the plans and support section conducts current and future planning.

The US Marine Corps tactical air command center (TACC) interfaces with the BCD. The Tactical air operations center (TAOC) is the principal air control agency of the Marine air command and control system (MACCS) agencies.[99] The TAOC controls

airspace, and directs and controls the fires of assigned air defense assets. Critical to the functions performed by the BCD chief is to keep in touch with the amphibious operations as they transfer to shore. The passing of command and control from the CATF (Commander Amphibious Task Force) to the CLF is a significant activity for naval and marine commanders. "Once the CATF and CLF agree that the Marine Air Ground Task Force (MAGTF) is capable of coordinating and managing aviation functions ashore. . . sector airspace management functions along with planning functions or landing aviation are passed from the Navy TACC afloat to the Marine TADC (Tactical Air Direction Center) ashore."[100] The Marine interactions with the BCD should be fluid and transition quickly from naval actions at sea to actions on land. The BCD must make an effort to interface with the tactical officer (TAO), tactical air controller (TAC), supporting arms coordinator (SAC) afloat, and Marine TACC senior watch officer (SWO) ashore.[101] The BCD as it is currently resourced aligns well with naval and marine operations and should be able to provide support as robust as it does for the Air Force.

VI. Conclusion

Military operations in the early 1980's envisioned multiple echelons of Soviet forces attacking forward deployed NATO units based in western Germany. For decades after the second World War, generations of soldiers spent much of their time and energy concentrating on the mammoth "Red" machine to the east. Doctrinal thinking and publications focused on how best to stop this Army once it began its race across

Germany. One dominant idea concerned itself with trying to attack the enemy in depth, long before the clash of close combat operations ensued. AirLand battle, it was hoped, would be the panacea for the US Army in deploying its forces. This doctrine understood that time and distance were important elements in any attempt to coordinate a successful combined attack on the enemy. From this understanding, there are many conclusions that one can draw about the BCD.

First, Army and Air Force planners realized that to successfully defeat the Soviet Army, they would have to work together and thus, create mechanisms which would allow for interoperability between the two services. Consistent with Airland doctrine, the services began with a division of the battlefield in order to better ascertain exact responsibilities. In general terms, the Army would concern itself with the close fight, defined as about five kilometers beyond the FLOT, and the Air Force would be responsible for everything beyond 50 kilometers of the FLOT. These rough generic definitions would guide the early development of the BCE. Thus, the BCE came into development just as joint operations were becoming a major issue in Congress and the Department of Defense. One of the many messages of the Goldwater-Nichols Act in 1986, was that the services must learn how to fight as a joint team. The BCE of the early 1980's was inherently joint in its function and focus as it attempted to link the air operations of the JFACC to the ground operations of the land component commander. The BCD of the 1990's and beyond continues to have a joint emphasis as it is concerned with linking maneuver operations with air operations.

Secondly, the BCD continually learned how to grow through self-assessment, exercises and ultimately in the heat of war. Before Operation Just Cause and Desert Storm, the BCE was conducting fledgling operations with numbered Air Forces in exercises designed to test Army-Air Force interoperability. After-Action reports continually emphasized the importance of properly resourcing this vital conduit of intelligence and communication. Operation Just Cause offered the first test for the BCD role in contingency operations and the organization learned how best to deploy its forces in support of the JFACC. It was not until Desert Storm that the BCD would gain some measure for the capability of its operation. Although the BCD performed well, many problems concerning the employment of the BCD surfaced. One particular problem which will continue to be a challenge for soldiers deploying today, is that the BCD was not properly used in the operation. Many problems existed for the Army in the consideration and attack of targets to support their operations. The BCD, with proper resourcing and given a chance to do its job, could have reduced much of the confusion that existed on the battlefield.

Thirdly, despite the BCD's chief request for more authority in Desert Storm, there were still problems that had to be worked out. Many senior officials after Desert Storm recognized the importance of the BCD, but all expressed concerns about the state of training and doctrine that accompanied these soldiers. There would have to be a more focused concentration on the doctrine that addressed the coordination and execution of air and ground operations to attack the enemy in depth. Moreover, the BCD was not simply coordinating the interdiction of second echelon forces, as in the old doctrine, but

now was helping facilitate close air support, theater airlift, army airspace command and control and air defense. Emerging doctrine had to have a broader scope that would encompass the scope of these missions. In addition, the BCD would need more communication equipment to handle these increased responsibilities and interface with the various sections of the air operation center.

Fourthly, the BCD needed new doctrine in order to best cope with the changing environment. While doctrine should not be totally prescriptive and binding, a clearer picture of the major functions of the BCD provides focus for its members, as well as helps "sell it" to other services. FM100-13 helps illuminate exactly what the requirements are for the BCD in a contingency based, force-projection Army that must deploy in a short time. The bottom line is that the BCD provides a very flexible means of affecting coordination with other services for a very low cost. BCD operations need only minimal equipment to deploy, but bring no organic means of transportation with them. Thus, the supported air operations center will have to provide more equipment for the BCD to do its job, but it stands ready to support contingency operations at a moment's notice.

Additionally, the emerging doctrine specifies the exact location of the BCD linkages in relation to the other services. As mentioned, the BCD is designed to work primarily with the JAOC of a numbered Air Force, but it is equally equipped to operate with the Navy and the Marines. The services use different descriptions of the organizations that provide air support operations, however the BCD can conduct its work regardless of its location on land, in the air, or at sea. Moreover, the doctrine that spells

out the relationships between the services is just a point of departure. Only exercises conducted over time will allow BCD personnel to first understand, and then leverage the personalities and cultural peculiarities of a service or an organization in order to accomplish the mission.

Lastly, the BCD is an example of the kind of organization that the US Army will need more of in the future. As a service's resources continue to dwindle because of congressional cutbacks in the defense, the tendency will be for more and more organizations to express purely local interests. After a period of time, this might cause an isolationist mentality that could stovepipe information even more than it currently is, and thus, decrease unit effectiveness and more importantly damage the unit's ability to defeat the enemy. The BCD is an organization that links these potential stovepipes and allows for the smooth transference of information, intelligence, and targeting data. BCD personnel who understand both the land component commander's intent and the Air Force commander's intent, and then can subsequently explain the important elements to each of the respective organizations are invaluable. Moreover, because the BCD staff understands each service's intent they can realistically identify those points for the ground commander where he can expect adequate air coverage and those places where more work is required. Contrarily, the Air Force relies on the BCD to accurately paint a good picture of the ground war and help indicate the critical nodes on the battlefield to avoid fratricide. The BCD is an invaluable organization that warrants all services respect and attention.

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[52]MAJ Schumacher, JULLS, ARCENT MI History on Desert Storm CH 09-6, p. 9-50.

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[79]Ibid, p. 1-9.

[80]Ibid, p. 1-10.

[81]Ibid, p. 2-25.

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1. SUBMITTED BY: WILLIAMS, DARRYL A., MAJ. DATE: JANUARY 19, 1996

2. SEMINAR: 3 MONOGRAPH DIRECTOR: LTC HAMMOND

3. WORKING TITLE: FACILITATING JOINT OPERATIONS: THE EVOLVING BATTLEFIELD COORDINATION ELEMENT(BCE)

4. RESEARCH QUESTION: Does emerging doctrine on the functioning of the Battlefield Coordination Element (BCE) satisfactorily address the evolving requirements of this vital link between the army and the other service components.

Supporting Questions:
a. What are the current requirements of a BCE operating in conjunction with an Air Support Operation Center (ASOC)?
b. Are these requirements different when a BCE is operating with other services besides the Air Force?
c. What lessons learned are available from history which might help in designing the structure and functioning of current BCE's?
d. Do other services offer insights that could streamline current BCE procedures? Other countries?

5. PROBLEM BACKGROUND AND SIGNIFICANCE: The monograph will focus on the functioning of the BCE, which represents the battlefield functional area interests of the Army forces (ARFOR) commander to the Joint Force Air Component Commander (JFACC) in joint-air ground operations. Joint Pub 1-02 states "that the BCE is an Army liaison provided by the Army component commander to the AOC and/or to the component designated by the joint force commander to plan, coordinate and deconflict air operations." Additionally, it says that "the BCE processes Army requests for tactical air support, monitors and interprets the land battle situation for the AOC, and provides the necessary interface for exchange of current intelligence and operational data." In short, the BCE performs a very critical mission that ultimately impacts on the Army's ability to receive adequate air support.

The underlying premise that permeates BCE operations, is that it is distinctively joint in nature. TRADOC Pam 525-5 talks of the joint connectivity that must exist between sister services. It further says that "to fully execute full-dimensional operations throughout the depth, height, width, and time of the particular battlespace demands use of other services assets." The separate services can no longer express purely parochial interests and operate in a vacuum. Elements which help facilitate, and promote mutual understanding and coordination are important organizations in this era of shrinking resources. Thus, the continual evolution of the BCE, is "a growth industry" which will help promote service connectivity now, and in future combat operations.

The BCE is a product of the early 1980's. It evolved from a need to interdict enemy reinforcing and follow-on forces before they could support the close battle. Currently, the BCE has six sections under its headquarters which are: an operations section, an intelligence section, a fusion section, a plans section, an ADA/A2C2 section, and an airlift section. All of these sections collocate within the Air Operations Center (AOC), which is the Air Component Commander's centralized facility to plan, direct, and control combat air resources. Within the past year, the Chief of Staff of the United States Army, General Reimer, has expressed great interest in the continual evolution of the BCE. In May 1994, the Field Artillery School at Fort Sill, Oklahoma, was made the proponent for the BCE with the Army Commandant of the Air Force's Air Ground Operations School having oversight. To further show the increased importance of the BCE, a few graduates from the Command and General Staff College class of 1995, received operational assignments to the 1st BCE at Fort Bragg, North Carolina. Moreover, the Field Artillery School is currently operating under a very short suspense to employ the AFATDS (Advanced Field Artillery Tactical Data System) on navy command and control ships to facilitate interoperability with the Army as an afloat JFACC tactical air control center. Thus, the BCE is a concept that is currently benefiting from the attention from our Army's highest level down to the action officer level.

6. RESEARCH METHODOLOGY: This monograph will address current doctrinal publications which address the BCE. By carefully scrubbing existing and evolving doctrine on the BCE, the paper will help establish the desired endstate as envisioned by current doctrinal writers.

The paper will also discuss historical examples utilizing a case study method. The purpose of the historical study will be to identify, show, and elaborate on considerations that "ought" to go in an element that concerns itself with, among other things, coordinating air support for Army forces. By examining such operations as COBRA, the paper will identify those more critical components/capabilities that a BCE must possess.

The paper will also depend on interviews/conversations conducted with key personnel that are currently serving in BCE's and key officers responsible for writing this emerging doctrine. In conducting this oral research, the author also attempts to capture the views of some senior officers, sister service officers, and allied officers to add depth and scope to the research.

Finally, officers and soldiers who have worked in a BCE, and officers such as the BCTP evaluation teams will be questioned for lessons learned and after action comments.

7. MILESTONES:

Draft prospectus to Monograph Director: January 19, 1996
Final prospectus to Monograph Director: January 22, 1996
Monograph Director Update: January 29, 1996

Monograph Director Update: February 12, 1996
Initial Draft to Monograph Director: February 26, 1996
Monograph Director Update: March 11, 1996
Final Draft to Monograph Director: March 19, 1996
Monograph to Director, SAMS: April 2, 1996

8. MONOGRAPH STRUCTURE: The monograph will consist of five major sections.

a. Introduction: The introduction will be the opening part to the paper, and will set the stage for the rest of the paper. In the introduction, I will make the reader aware of the purpose of the paper, as well as introduce the major parts of the paper. These opening remarks will be comprised of approximately six well-developed paragraphs.

b. Body: The main body of the paper will begin with a doctrinal overview of operational and joint fires. The paper will then discuss a series of historical examples which will offer the capabilities and functions that a BCE ought to provide to help facilitate joint fire support. The paper will then cover the emerging doctrine concerning the BCE.

c. Analysis/Discussion: This part of the paper will examine the elements presented in the previous section and thus, move toward some level of satisfaction in developing sound conclusions offered in the next section. This section will be the heart of the paper. It will attempt to validate the major tenets offered by the emerging doctrine in light of the insights derived from the historical studies, the personal interviews, and supporting doctrine.

d. Conclusion: This part of the paper will be approximately five pages in length and will attempt to do a synthesis of my research, as well as offer recommendations towards the development of future doctrine.

e. Summary: This section will return the reader's focus to the main portions of the paper and provide a concise statement of the paper's major points.

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